

Amendments to the Specification:

Please replace the equation beginning on page 22, line 9 with the following amended equation:

$$\sum_{n=1}^N Pn_total + Pn_total' = \text{constant}$$

Please replace the paragraph starting with "Now referring to FIGURE 16A and 16B" beginning on page 22, lines 27-32 and ending on page 23, lines 1-13 with the following amended paragraph:

Now referring to FIGURES 16A and 16B, diagrams illustrate the effect of the control as expressed in Equation (3). A left diagram in FIGURE 16A illustrates an optical signal whose optical strength level is even across the bands P1_total 715-11 through P4_total 715-41 before transmission from an amplifier on the transmission side. During transmission, the optical signal is affected by the SRS in the optical fiber. A right diagram in FIGURE 16A illustrates the optical signal whose optical strength level is uneven across the bands P1_titlt 715-12 through P4_titlt 715-42 after transmission to a receiving unit from the amplifier on the transmission side. To compensate the above gain tilt after transmission, a left diagram in FIGURE 16B illustrates an optical signal whose optical strength level is processed to be uneven across the bands P1_total 715-13 through P4_total 715-43 before transmission via amplifier control. In other words, the optical strength portions P1_titlt 715-12 through P4_titlt 715-42 are respectively subtracted from the original even optical signal across the bands P1_total 715-13 through P4_total 715-43. As a result of the above pre-compensation, a right diagram in FIGURE 16B illustrates the optical signal whose optical strength level is now even across the bands P1_total' 715-14 through P4_total' 715-44 after transmission to a receiving unit from the amplifier on the transmission side. As described above, to compensate the gain tilt in each band at the receiving unit due to the SRS effect, the same amount of the gain tilt in the opposite direction is compensated at the transmission side in advance of transmission.

Please replace the equation beginning on page 23, line 28 with the following amended equation:

$$P1_total = P2_total = P3_total = P4_total$$